

REMARKS

This is a full and timely response to the non-final Office Action (Paper No. 11) mailed by the U.S. Patent and Trademark Office on February 4, 2003. Claims 1, 3-8, 10, 11 and 13-15 remain pending in the present application. Independent claims 1, 7 and 11 have been amended to define further the invention. In view of the foregoing amendment and following remarks, reconsideration and allowance of the present application and claims are respectfully requested.

Rejections Under 35 U.S.C. §102

Claims 1, 3-8, 10-11 and 13-15 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 5,969,835 to Kamieniecki *et al.* A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ 2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ 2d 1655 (Fed. Cir. 1990). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopedics, Inc.*, 976 F.2d 1559, 24 USPQ 2d 1321 (Fed. Cir. 1992).

Accordingly, the single prior art reference must properly disclose, teach or suggest each element of the claimed invention.

It is alleged in the Office Action that:

Kamieniecki *et al.* disclose an automated signal generator apparatus which allows *testing of remotely-controlled electronic devices* to verify functionality and reliability, or for product set-up, initialization or configuration. The apparatus simulates a person

pressing the keys on a remote control key pad, and can simulate key press sequences, key press duration, and time between key presses. Other human interfaces may also be simulated. The apparatus can be continuously driven by an external computer in a slaved mode, or can store test instructions in an internal memory to operate in a standalone mode. Test instructions, which may be written in a macro script language, are processed by a microprocessor to provide a control signal to, e.g., an infrared (IR) transmitter. The IR transmitter can control one or more electronic devices which are under test. The transmitter may use a wide angle IR beam, or a plurality of separate transmitters for testing of a plurality of electronic devices at the same time. In a human learning mode, control signals from a human interface are processed to provide time compression or repetition of a fixed control sequence.

In particular, Kamieniecki et al. disclose:

- connecting the DUT to a testing device (fig. 1; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);
- connecting a remote controlling device to the testing device (fig. 1; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);
- connecting a communications line (fig. 1 [# 125, 170]; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);
- using a video camera (col. 7, lines 27-40);
- establishing a communications link between remote controller and remote controlling device (fig. 1; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);
- transmitting DUT data to remote controller (fig. 1 [# 180]; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);
- controlling testing device using input from remote controller (fig. 1; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);
- initializing, establishing and transmitting data/attribute of DUT (fig. 1; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);
- forwarding instructions to remote controller and forwarding to testing device (fig. 1 [# 180]; col. 2, lines 20-28; col. 3, lines 28-35; col. 4, lines 7-63; col. 5, line 47 to col. 6, line 62; col. 7, lines 16-40; col. 9, line 54 to col. 10, line 13);

(Emphasis in Original)

Kamieniecki et al. appears to disclose an automated test signal generator apparatus that allows testing of remotely controlled electronic devices to verify functionality and reliability. *See Abstract.* *Kamieniecki et al.* appears to include a signal generator 100 that translates or converts test instructions to an electronic control signal which is received by an infrared (IR) transmitter 110. The IR transmitter 110 may emit a wide angle beam with sufficient power to be detected by each of a number of devices under test (DUTs) that are designed to receive the infrared signal. *See column 5, lines 66 through column 6, line 3.* *Kamieniecki et al.* appears to disclose a test apparatus in which testing of the functionality and reliability of an IR controlled electronic device is performed. The IR testing apparatus apparently simulates human key presses on an IR remote control, and determines the reliability of an IR receiver that detects the key presses.

In marked contrast to *Kamieniecki et al.*, the present invention discloses a method and apparatus for remote control of a testing device that is connected to a device under test (DUT). The remote controlling device is used to establish a connection between the remote controlling device and a remote controller on the communication link, wherein the remote controlling device initiates the connection.

Specifically, and with particular regard to the claims, amended independent claim 1 includes at least “establishing a connection between said remote controlling device and a remote controller on said communication link, wherein said remote controlling device initiates said connection,” “transmitting device under test data to said remote controller using said connection,” and “establishing a model of the testing device by electronically obtaining model information from the device under test and the testing device using the remote controlling device.”

Similarly, amended independent claim 7 includes at least “a transceiver for transmitting an image of the testing device connections and the model information to the

remote controller for analysis, wherein said remote controlling apparatus initiates a connection over which said video images and model information are transmitted.” Similarly, amended independent claim 11 includes at least “means for establishing a connection between said remote controlling device to a remote controller on said communication link, wherein said remote controlling device initiates said connection,” “means for transmitting device under test data to said remote controller using said connection,” and “means for establishing a model of the testing device by electronically obtaining model information from the device under test and the testing device using the remote controlling device.”

Applicants respectfully submit that at least these features are neither disclosed, taught, nor suggested by *Kamieniecki et al.*

Accordingly, Applicants respectfully submit that independent claims 1, 7 and 11 are allowable over *Kamieniecki et al.* because *Kamieniecki et al.* fails to disclose each element of those independent claims. Further, Applicants respectfully submit that dependent claims 3-6, 8, 10, and 13-15 are allowable for at least the reason that they depend from allowable independent claims. *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted).

Rejections Under 35 U.S.C. §103

Claims 1, 3-8, 10, 11 and 13-15 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,504,432 to Chandler *et al.* in view of taking Official Notice. For a claim to be properly rejected under 35 U.S.C. §103, “[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *In re Fine, supra.*

It is stated in the Office Action that:

Chandler et al. disclose an automatic circuit board tester for testing for shorts, opens, and interconnected pins or nodes on a circuit board. The tester first classifies the nodes as being in one of three categories based upon the design of the board and the intended interconnection of the nodes. The categories of nodes are: (1) connected to ground; (2) interconnected to all other nodes in the test group; or (3) isolated from all other nodes. The circuit board tester has a testhead containing a plurality of test channels, each configured to be coupled to a node on the circuit board. The testhead utilizes a digital signal from a digital driver to drive the node at a predetermined voltage and a digital receiver to read the node voltage to determine if it is coupled to ground. Each test channel also includes a switch to connect the digital driver and receiver to the test node as well as a ground switch to selectively couple the node to ground. Various combinations of switch positions and testing sequences enables the circuit board tester to test all node connections and to ensure that the physical embodiment of the circuit board accurately reflects the circuit board design.

In particular, Chandler et al. discloses:

- connecting the DUT to a testing device (fig. 1-2; col. 3, line 21 to col. 4, line 24);
- connecting a remote controlling device to the testing device (fig. 1-2; col. 3, line 21 to col. 4, line 24);
- connecting a communications line (fig. 1-2; col. 3, line 21 to col. 4, line 24);
- establishing a communications link between remote controller and remote controlling device (fig. 1-2; col. 3, line 21 to col. 4, line 24);
- transmitting DUT data to remote controller (fig. 1-2; col. 3, line 21 to col. 4, line 24);
- controlling testing device using input from remote controller (fig. 1-2; col. 3, line 21 to col. 4, line 24);
- initializing, establishing and transmitting data/attribute of DUT (fig. 1-2; col. 3, line 21 to col. 4, line 24);
- forwarding instructions to remote controller and forwarding to testing device (fig. 1-2; col. 3, line 21 to col. 4, line 24);

Chandler et al. do not disclose use of "video cameras"

Official notice is taken that it would have been obvious to one of ordinary skill in the art at the time of the invention to employ video cameras during remote testing of DUTs because this provides other sources of information to the user which would not be as apparent from, for example, only electrical signals. For example, during testing of semiconductor DUTs, a video signal could show smoke, indicating overheating of the DUT.

Chandler et al. appears to disclose a system for testing a circuit board for short circuits, open circuits, and interconnected pins or nodes in which less than full power is applied to the circuit board to prevent activating semiconductor components on the board. However, the proposed combination fails to disclose, teach, or suggest at least “establishing a connection between said remote controlling device and a remote controller on said communication link, wherein said remote controlling device initiates said connection,” “transmitting device under test data to said remote controller using said connection,” and “establishing a model of the testing device by electronically obtaining model information from the device under test and the testing device using the remote controlling device,” as recited in amended independent claim 1.

Further, the proposed combination fails to disclose, teach or suggest at least “a transceiver for transmitting an image of the testing device connections and the model information to the remote controller for analysis, wherein said remote controlling apparatus initiates a connection over which said video images and model information are transmitted,” as recited in amended independent claim 7. Nor does the proposed combination disclose, teach or suggest at least “means for establishing a connection between said remote controlling device to a remote controller on said communication link, wherein said remote controlling device initiates said connection,” “means for transmitting device under test data to said remote controller using said connection,” and “means for establishing a model of the testing device by electronically obtaining model information from the device under test and the testing device using the remote controlling device,” as recited in amended independent claim 11.

Accordingly, Applicants respectfully submit that independent claims 1, 7 and 11 are allowable over the proposed combination of *Chandler et al.* and *Examiner’s Official Notice* because the proposed combination fails to disclose, teach or suggest all the features of

amended independent claims 1, 7 and 11. Further, Applicants respectfully submit that dependent claims 3-6, 8, 10, and 13-15 are allowable for at least the reason that they depend from allowable independent claims. *In re Fine, supra.*

Applicants Response to the Office Action's Response to Applicants Arguments

With regard to the statement in paragraph 16 the Office Action that:

Applicants have not responded to this Examiner's response (paper #6) to Applicant's earlier arguments (pp. 11-16, paper #5)

Applicants respectfully submit that Applicants responded to the Examiner's arguments in Paper No. 5 by submitting Applicant's previous Second Response dated November 18, 2002, which amended independent claim 1 to include "establishing a model of the testing device by electronically obtaining model information from the device under test and the testing device," and "transmitting an image of the testing device connections and the model information to the remote controller for analysis." Similarly, Applicant's Second Response dated November 18, 2002, amended independent claim 7 to recite "a third programmable logic to establish a model of the testing device by electronically obtaining model information from the device under test and the testing device," and "a transceiver for transmitting an image of the testing device connections and the model information to the remote controller for analysis." Similarly, independent claim 11 was amended to recite "means for establishing a model of the testing device by electronically obtaining model information from the device under test and the testing device," and "means for transmitting an image of the testing device connections and the model information to the remote controller for analysis."

With regard to the statement in paragraph 21 the Office Action that:

Applicants have not responded to this Examiner's response (paper #6) to Applicant's earlier arguments (pp. 11-16, paper #5)

Applicants respectfully submit that Applicants responded to paragraph 19 of Paper No. 6 by amending independent claims 1, 7 and 11 in the Second Response dated November 18, 2002, and by stating that "[a]ccordingly, Applicants respectfully submit that independent claims 1, 7 and 11 are allowable over the proposed combination of *Chandler et al.* and *Examiner's Official Notice* because the proposed combination fails to render obvious independent claims 1, 7 and 11." *Applicants Second Response dated November 18, 2002.*

With regard to the statement in paragraph 22 the Office Action that:

Applicants have not responded to this Examiner's response (paper #6) to Applicant's earlier arguments (pp. 11-16, paper #5)

Applicants respectfully submit that in Applicant's First Response dated August 20, 2002, Applicants stated that "one having ordinary skill in the art would not be led by *Chandler et al.* toward employing a video camera to "establish a model of the testing device," or "transmit model information to the remote controller for analysis" [the claims have since been further amended] because *Chandler et al.* makes no mention whatsoever of using a video camera." Applicants respectfully submit that the amendments to independent claims 1, 7 and 11 submitted in Applicants Second Response dated November 18, 2002, obviated the need for further response.

CONCLUSION

For at least the foregoing reasons, Applicants respectfully request that all outstanding rejections be withdrawn and that all pending claims of this application be allowed to issue. If the Examiner has any comments regarding Applicants' response or intends to dispose of this matter in a manner other than a notice of allowance, Applicant's request that the Examiner telephone Applicants' undersigned attorney.

Respectfully submitted

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**

Suite 1750
100 Galleria Parkway
Atlanta, Georgia 30339
(770) 933-9500

By:



Michael J. Tempel
Registration No. 41,344